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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,093	07/31/2001	Keith Rieken	9824-045-999	4453
38881	7590	09/12/2005	EXAMINER	
DARBY & DARBY P.C. P.O. BOX 5257 NEW YORK, NY 10150-5257			SHAH, NILESH R	
			ART UNIT	PAPER NUMBER
			2195	

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/920,093

**Applicant(s)**

RIEKEN ET AL.

**Examiner**

Nilesh Shah

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 20 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

1. Claims 1-13 are presented for examination.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a). The following claim language is not clearly define:

- i. As per claim 1, line 4 it is unclear what real time aspects are. (i.e. how are the real time aspect processed, what steps do real time aspect include, who extracts the real time aspects?).
- ii. As per claim 2, line 2 it is unclear whom and how the profiling is does? (i.e. does the same element that does the extracting do the profiling also, if so what is that element? how is the profiling done?).
- iii. As per claim 6, line 2 it is unclear how the determining step is made by said extracting?
- iv. As per claim 13, line 2 it is unclear how the master control unit is related to the data cache? (i.e. is the time slots associated with the cache? What

function does the time slot table have?); line 4, it is unclear how the finger processing election relate to the master control unit?

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Belotserkovsky et al (6,621,857) (hereinafter Belotserkovsky) in view of Schuster et al (6,591,355) (hereinafter Schuster).

6. As per claim 1, Belotserkovsky teaches the invention as claimed including a method for building a time-sliced architecture in a spread spectrum system comprising of building a specific time-sliced architecture to accommodate said range of applications based on said analyzing (col. 4 lines 25-45; col.4 line 64- col. 5 line 17; col. 7 lines 30-50; col. 10 line 40-65).
7. Belotserkovsky does not specifically teach the use of determining a optimal granularity.

Schuster teaches analyzing a set of applications, said analyzing including the steps of extracting real time aspects from each application in said set of applications (fig. 1, col. 1 lines 30-50; col. 4 lines 53-67; col. 8 lines 44-65; col. 7 lines 14-35); determining an optimal granularity based on said real time aspects (col. 4 lines 53-67; col. 11 lines 50-65; 19 lines 1-30); and adjusting said optimal granularity based on a context switching overhead (col. 1 lines 30-49; col. 4 lines 53-67; col. 8 lines 44-65; col. 7 lines 14-35).

8. It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Belotserkovsky and Schuster because Schuster's method of determining the optimal granularity would improve Belotserkovsky's system by having the best granularity at that given time.
9. As per claim 2, Schuster teaches a method wherein said extracting includes the step of: profiling fundamental processing elements in each application in said set of applications (fig. 1, col. 1 lines 30-50; col. 4 lines 53-67; col. 8 lines 44-65; col. 7 lines 14-35).
10. As per claim 3, Schuster teaches a method, wherein said determining includes the step of: determining a lowest level of granularity needed for each application in said set of applications (col. 1 lines 30-49; col. 4 lines 53-67; col. 8 lines 44-65; col. 7 lines 14-35).

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11. As per claim 4, Schuster teaches a method wherein said adjusting includes the step of:  
performing a sensitivity analysis (col. 1 lines 30-49; col. 4 lines 53-67; col. 8 lines 44-65; col. 7 lines 14-35).
12. As per claim 5, Schuster teaches a method wherein said performing includes the step of:  
determining an optimal trade-off between said context switching overhead and said  
optimal granularity (col. 1 lines 30-49; col. 4 lines 53-67; col. 8 lines 44-65; col. 7 lines  
14-35).
13. As per claim 6, Schuster teaches determining a size for a data cache based on said  
extracting (col. 3, lines 1-5);  
implementing a hierarchical caching structure in said data cache (col. 1 lines 25-50; col. 2  
lines 29-29; col. 3 lines 11-25; col. 11 lines 45-65; col. 20 lines 30-40); and  
applying said data cache in said specific time-sliced architecture (col. 1 lines 25-50; col. 2  
lines 29-29; col. 3 lines 11-25; col. 11 lines 45-65; col. 20 lines 30-40).
14. Claims 7-12 are rejected based on the same rejected as claims 1-6 above.
15. As per claim 13, Belotserkovsky teaches the invention substantially as claimed including  
the use of analyzing a set of applications for the best performance level (col. 4 lines 25-45; col. 4 line 64- col. 5 line 17; col. 7 lines 30-50; col. 10 line 40-65);

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a master control unit including a time slot table and a partial sums search table (col. 1 lines 50-67; col. 8 lines 1-15; col. 5 lines 45-67);

a despreader connected to an output of the data selector (col. 3 lines 29-55; col. 4 lines 46-67; col. 5 lines 19-40; col. 6 lines 39-55; col. 9 line 61- col. 10 line 40); and

a symbol integrator connected to an output of the despreader(col. 3 lines 29-55; col. 4 lines 46-67; col. 5 lines 19-40; col. 6 lines 39-55; col. 9 line 61- col. 10 line 40; col. 4 line 64- col. 5 line 17; col. 7 lines 30-50).

Schuster a data cache for receiving input data, a cache for receiving data from the data cache, a data selector connected to an output of the cache (col. 1 lines 25-50; col. 2 lines 29-29; col. 3 lines 11-25; col. 11 lines 45-65; col. 20 lines 30-40).

### **Conclusion**

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Park (6,363,458) teaches the use of an adaptive granularity system. Horvitz (6,009,452) teaches the use of optimally using computer resources. Subramanian (6,934,319) teach the use of a configurable despreader in spread spectrum application. Kerr et al (6,934,319) teaches the use of improving integrated system based on CPU capabilities.
17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nilesch Shah whose telephone number is (571)272-3771.

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The examiner can normally be reached on 9-5. Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571)272-3756. .

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nilesh Shah  
Examiner  
Art Unit 2195

August 22, 2005  
NS

  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100